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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/054,937	01/25/2002	Yoichi Akagami	218435US2	6946

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EXAMINER

SHAKERI, HADI

ART UNIT PAPER NUMBER

3723

DATE MAILED: 07/15/2003

3

Please find below and/or attached an Office communication concerning this application or proceeding.

N.K.

# Office Action Summary

Application N .

10/054,937

Applicant(s)

AKAGAMI ET AL.

Examiner

Hadi Shakeri

Art Unit

3723

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: .

## **DETAILED ACTION**

### ***Priority***

1. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Japan on 10/05/01. It is noted, however, that applicant has not filed a certified copy of the JP 2001-309902 application as required by 35 U.S.C. 119(b).

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 2, 4, 5-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
4. Regarding claim 2, "electrode elements have different diameter" renders the claim indefinite for it presupposes that the elements are cylindrical. Applicant may wish to amend by reciting, --...elements are cylindrical having...--.
5. Regarding claim 6, "the inner and outer electrodes" renders the claim indefinite, since for embodiments wherein the plurality of elements forms a singular circular formation, the inner and outer as recited would be vague and improper. Applicant may wish to amend by reciting, --...wherein the plurality of electrode elements includes inner and outer electrode elements and a lower voltage...--.
6. Claims 9-16 recite the limitation "containing a dispersion of abrasive particles" in line 3 rendering the claims indefinite for double inclusion. The dispersion of abrasive particles should be changed to, --...said abrasive particles--.

**Claim Rejections - 35 USC § 102**

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

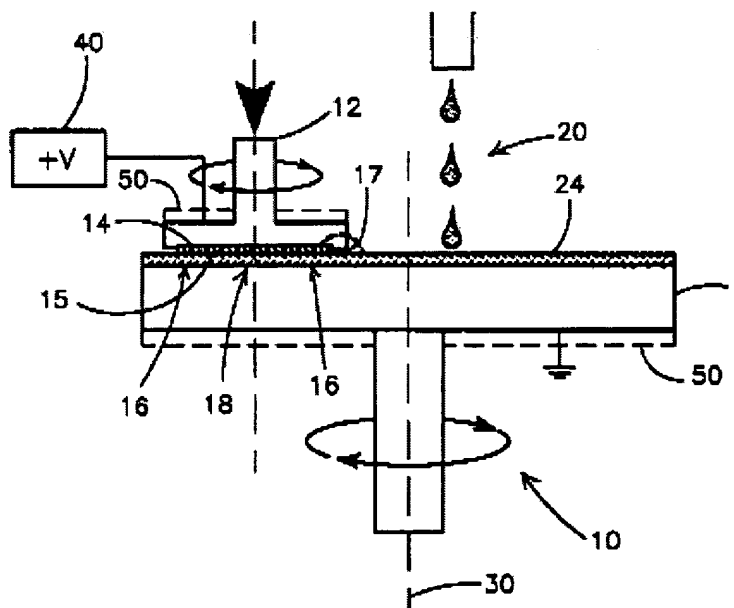
A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1-3 rejected under 35 U.S.C. 102(b) as being anticipated by Glass, US Patent No. 6,010,964.

Glass discloses all the limitations of claim 1, i.e., a polishing apparatus comprising an electrode comprising, e.g., two sets of ring-shaped electrodes positioned on the holder (12), col. 7, lines 63-67, slurry comprising abrasives and a carrier liquid between the electrode and the workpiece, and application of AC-voltage to the electrodes.

Regarding claims 2 and 3, Glass meets the limitations, i.e., electrode elements having different diameters concentric circular formation and different voltages applied to the electrodes.

**Claim Rejections - 35 USC § 103**

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 3723

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 4-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Glass.

Glass meets all the limitations of the above claims except for disclosing applying a lower voltage to the inner or central electrode and higher voltage to the outer. Glass discloses controlling the planarization by applying different potential differences at different portions. It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to apply lower voltage to the inner and higher voltage to the outer electrode to control the polishing, e.g., preventing dishing effect.

11. Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art (AAPA) in view of Glass.

As admitted by the Applicant, e.g., Figs. 12 and 13, polishing apparatus comprising electrode meeting all the limitations of claim 1, except for the electrode to comprise a plurality of elements, is known in the art. Glass teaches controlling the planarization by applying different potential differences at different portions using electrodes comprising two rings. It would have been obvious to one of ordinary skill in the art, at the time the invention was made to modify the invention of AAPA with the electrodes comprising two rings as taught by Glass to control the rate of planarization of portions of wafer through varied potential differences, Glass col. 7, lines 19-23. Regarding claims 2-7, AAPA in view of Glass further modified as in section 10 above meets the limitations.

***Allowable Subject Matter***

12. Claims 8-16 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.

13. The following is a statement of reasons for the indication of allowable subject matter: a cylindrical electrode as in Figs. 5-7, and claimed in claim 8 and a fluid dispenser as in Fig. 11/claim 9 place these claims in condition for allowance.

***Conclusion***

14. Prior art made of record and not relied upon are considered pertinent to applicant's disclosure. Tsai et al., Easter et al. and Uzoh are cited to show related inventions.

15. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Hadi Shakeri at (703) 308-6279, FAX (703) 746-3279 for unofficial documents. The examiner can normally be reached on Monday-Thursday, 7:30 AM to 6:00 PM. Official documents may be faxed to (703) 872-9302, after final to (703) 872-9303.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist at (703) 308-1148.



**HADI SHAKERI**  
**PATENT EXAMINER**

July 9, 2003